

REMARKS/ARGUMENTS

Claims 1-11 and 23-32 are pending. Claims 1, 6, and 9 have been amended. No claim has been canceled. New claims 29-32 have been added.

The drawings were objected to because Fig. 20 indicates "whit particles" instead of "white particles." A replacement sheet is enclosed herein to correct the informality.

Claims 1-11 and 23-28 were rejected under 35 U.S.C. § 102(b) as being anticipated by Steffan et al. Applicants respectfully traverse the rejection.

Claim 1 is directed to a method for classifying defects. The method includes, "imaging an inspected object; extracting an image of a defect candidate from an image obtained by said imaging step; classifying said extracted defect candidate image into a first category; classifying said extracted defect candidate image into a second category; and displaying on a screen said extracted defect candidate image and information relating to said classification into said first category and information relating to said classification into said second category, wherein said step of classifying said extracted defect candidate image into said second category is performed by comparing a circuit pattern area and a defect area, said circuit pattern area being obtained from a reference image and said defect area being obtained from said imaging step."

Steffan is directed to a wafer yield prediction method. A scan tool is used to capture a defect on a wafer (col. 5, lines 13-16). The defect information is send to an automatic systems 206, 208, and 210 to classify the defect as to type and size (col. 5, lines 16-20). The defect classification information is correlated with kill ratio information tabulated in a kill ratio table 212 (col. 5, lines 24). The correlated data determines a kill ratio for each defect, and this ratio is used to estimate the yield (col. 5, lines 24-45), rather than classifying a defect as either a killer defect or non-killer defect.

Steffan does not disclose "wherein said step of classifying said extracted defect candidate image into said second category is performed by comparing a circuit pattern area and a defect area, said circuit pattern area being obtained from a reference image and said defect area being obtained from said imaging step." That is, Steffan does not use the defect area obtained

from the imaging step to classify the defect into the second category. Rather, Steffan accesses a kill ratio table, so that the die health can be determined for yield prediction.

In addition, Steffan does not disclose "displaying on a screen said extracted defect candidate image and information relating to said classification into said first category and information relating to said classification into said second category..." The Examiner stated, this displaying step "...is necessary so that the image data would be presented along with the defect data and kill ratio data...otherwise, effective review of said defect by an engineer...would not be available. (page 3, paragraph 5). Applicants respectfully disagree.

Steffan relates to predicting yield and using the defect information to improve the production of semiconductor wafers (col. 5, lines 59-67). These functions do not require displaying of the extract defect candidate image, in the manner recited. Steffan, in fact, appears to provide no suggestion for performing the displaying step in the manner recited. The only motivation for the displaying step appears to be provided in the present application. Therefore, claim 1 is allowable for the reasons set forth above.

Claim 6 recites, "...classifying said extracted defect candidate image into at least one defect type; evaluating criticality of defect of said defect candidate image classified into said at least one defect type; and displaying on a screen said defect candidate image along with information relating to the type of said at least defect type and said criticality of defect, wherein said evaluating step is performed by comparing a circuit pattern area and a defect area, said circuit pattern area being obtained from a reference image, said defect area being derived from said imaging step, said extracted defect candidate image being extracted from said defect area." Steffan does not disclose the above recited features. Claim 6 is allowable.

Claim 9 recites, "... classifying said extracted defect candidate images into a first category; classifying said extracted defect candidate images into a second category, said second category relating to predicted yield from said inspected object; and displaying on a single screen a distribution on said inspected object of said defect candidates classified in said first category and information relating to said first category classification and information relating to results of said second category classification, wherein said step of classifying said extracted defect candidate image into said second category is performed by comparing a circuit pattern area and a

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defect area, said circuit pattern area being obtained from a reference image and corresponding to said defect area on said reference image, said defect area being derived from said imaging step, said extracted defect candidate image being extracted from said defect area." Steffan does not disclose the above features. Therefore, claim 9 is allowable.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,


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